INDEX TO VOLUME 53

ACKERMAN, RALPH A., 210
Adaptations of Nymphs of a Marine Dragonfly, *Erythrodiplax berenice*, to Wide Variations in Salinity, 445
Adaptive Advantage of Basking Behavior in an Anuran Amphibian, An, 433
Aerobic and Anaerobic Scope for Activity in the Giant Toad, *Bufo marinus*, 170
Antifreeze Glycoprotein Synthesis in the Antarctic Fish *Trematomus hansoni* by Constant Infusion in Vivo, 383

BAKKEN, GEORGE S., 108
BEAVER, DONALD L., 305
BELL, C. J., 270
BERGER, RALPH J., 8
BEST, R. C., 245
BINKLEY, SUE A., 120
BIRCHARD, GEOFFREY, F., 284
BISHOP, STEPHEN H., 262
Blood Oxygen Stores in the File Snake, *Acrochordus granulatus*, and in Other Marine Snakes, 394
BOARDMAN, THOMAS J., 163
Body Surface Temperatures and Thermoregulation in the Black-capped Chickadee (*Parus atricapillus*), 305
BOLAND, J. E., 270
BOWKER, RICHARD G., 176
BOXMAN, RAYMOND, 19

CARTER, C. SUE, 242
CASHON, ROBERT E., 136
Changes in the Fatty Acyl Composition of Phospholipids in the Optic Tectum and Optic Nerve of Temperature-acclimated Goldfish, 57
CHILDRESS, JAMES J., 322
Conductance of Water Vapor in Eggs of Burrowing and Nonburrowing Birds: Implications for Embryonic Gas Exchange, 284
CORWIN, JEFFREY T., 121
CRAIG, ALBERT B., JR., 419

Daily Energy Metabolism of Two Rodents (*Peromyscus leucopus* and *Tamias striatus*) in Their Natural Environment, 70
Digestive Efficiencies of Wild Howler Monkeys, 402
DMI'EL, RAZI, 19
DUNSON, WILLIAM A., 445

Effect of Aminotransferase Inhibitors on the Pattern of Free Amino Acid Accumulation in Isolated Mussel Hearts Subjected to Hyperosmotic Stress, 262
Effects of Daylength and Temperature on the Hibernating Rhythm of the Meadow Jumping Mouse (*Zapus hudsonius*), The, 410
Effects of Incubation and Acclimation Temperatures on Incorporation of U-[^{14}C] Glycine into Mitochondrial Protein of Liver Cells and Slices from Green Sunfish, *Lepomis cyanellus*, 293
ELLIS, HUGH I., 358
Embryonic Metabolism of the Fork-tailed Storm Petrel: Physiological Patterns during Prolonged and Interrupted Incubation, 32
Energetics and Water Economy of the Smallest Desert Mammal, 82
EPTING, ROBERT J., 347

FEDER, MARTIN E., 394
FENG, ALBERT S., 241, 243
FINCH, VIRGINIA A., 19
FREED, ARTHUR N., 433
Functional Dependence of the Power for Hovering on Wing Disc Loading in Hummingbirds, 347

GALLIVAN, G. J., 245, 254
GLEESON, TODD T., 157
GREANEY, GEORGE S., 136
GREENBERG, MICHAEL J., 122
GREENWALT, DALE E., 262
GRIGG, GORDON C., 1

HASCHEMEYER, AUDREY E. V., 373, 383
HASKELL, EDWIN H., 8
HELLER, H. CRAIG, 8
Hibernation and Circannual Rhythms of Sleep, 8
HILL, RICHARD W., 305
HOYT, DONALD F., 125
HUMMEL, HANS E., 242
HUTCHISON, VICTOR, H., 170
Hypoxia and Hypercapnia in the Respiratory Control of the Amazonian Manatee (*Trichechus inunguis*), 254

JOHNSON, OLIVER W., 176
JONES, RONALD M., 26

KAPLAN, ROBERT H., 43
KENAGY, G. J., 32
KENT, JEFFREY, 293
KILGORE, DELBERT L., JR., 284
KOEPPEN, BRUCE M., 240

KUBB, RICHARD N., 222

Lack of Metabolic Acclimation to Different Thermal Histories by Tadpoles of *Limnodynastes peroni* (Anura: Leptodactylidae), 1
Lactic Acid Production during Field Activity in the Galapagos Marine Iguana, *Amblyrhynchus cristatus*, 157
LINDSTEDT, STAN L., 82

MCNAB, BRIAN K., 145
MALTZ, EPHRAIM, 12
MANGEL, ALLEN, 240
MARSHALL, ELIZABETH, 1
MATHESON, D. F., 57
MATHEWS, RITA W., 383
Maximal Thermogenic Capacity and Body Temperatures of White-footed Mice (*Peromuscus*) in Summer and Winter, 338
MAXSON, LINDA E. R., 120
Mechanisms of Heat Transfer and Time-dependent Modeling of Body Temperatures in the Largemouth Bass (*Micropterus salmoides*), 222
Metabolism and Respiration of the Amazonian Manatee (*Trichechus inunguis*), 245
Metabolism and Solar Radiation in Dark and White Herons in Hot Climates, 358
Metabolism of Avian Embryos: Ontogeny of Oxygen Consumption in the Rhea and Emu, 125
Milk Production in the Desert: Lactation and Water Economy in the Black Bedouin Goat, 12
MILLER, KIRK, 170
MILTON, KATHARINE, 402
MUCHLINSKI, ALAN E., 410

NELSON, D. O., 122, 241
New Books in Physiological Zoology
G. GIEBISCH, D. C. TOSTESON, and H. H. USSING, *Transport across Single Biological Membranes*, 240
W. HEILIGENBERG, *Principles of Electrolocation and Jamming Avoidance in Electric Fish*, 241
E. S. HODGSON and R. F. MATHEWSON, *Sensory Biology of Sharks, Skates, and Rays*, 121
J. B. HUTCHISON, *Biological Determinants of Sexual Behavior*, 242
B. KAISSLING and W. KRIZ, *Structural Analysis of the Rabbit Kidney*, 240
P. J. MILL, *Physiology of Annelids*, 122
CHARLES R. NOBACK, *Sensory Systems of Primates*, 241
W. PRECHT, *Neuronal Operations in the Vestibular System*, 243
D. S. SAUNDERS, *Insect Clocks*, 120
H.-U. THIELE, *Carabid Beetles in Their Environments: A Study on Habitat Selection by Adaptations in Physiology and Behavior*, 242
VICTOR J. WILSON and GEOFFREY MELVILL JONES, *Mammalian Vestibular Physiology*, 122
SEWALL WRIGHT, *Evolution and the Genetics of Populations*, 120
Nitrogen Excretion by *Scaphiopus* Tadpoles in Ephemeral Ponds, 26

OEI, R., 57
On Estimating Thermal Conductance in Endotherms, 145
Ontogenetic Energetics in Ambystoma, 43
Oxygen Consumption, Gas Exchange, and Growth of Embryonic Wedge-tailed Shearwaters (*Puffinus pacificus chlororhynchus*), 210

PACKARD, GARY C., 163
PACKARD, MARY J., 163
PAGANELLI, CHARLES V., 210
PÅSCHE, ARVID, 419
PENDERGAST, DAVID R., 222
PETTIT, TED N., 210
PLACE, ALLEN R., 136
POHL, HERMANN, 186, 199
POWERS, DENNIS A., 136
Properties of the Circadian Clock of the Redpoll *Carduelis flammea*. I. Stability of Period and Ranges of Entrainment, 186
Properties of the Circadian Clock of the Redpoll *Carduelis flammea*. II. Overt Functions in Relation to the Pacemaker, 199
Protein Metabolism and Cold Adaptation in Antarctic Fishes, 373
PROSSER, C. LADD, 293

Radiotelemetric Study of Heating and Cooling Rates in Unrestrained, Captive *Crocodylus porosus*, A, 270
RANDOLPH, J. C., 70
Respiratory Physiology of Freely Diving Harbor Seals (*Phoca vitulina*), 419
Responses of Goldfish (*Carassius auratus*, L.) Muscle to Acclimation Temperature: Alterations in Biochemistry and Proportions of Different Fiber Types, 98
ROBERTSON, J. B., 402
ROOTS, BETTY I., 57

SHKOLNIK, AMIRAM, 12, 19
SIDELL, BRUCE D., 98
SMITH, GLENN, 136
SMITH, MICHAEL A. K., 373
SOMERO, GEORGE N., 322
SOTHERLAND, PAUL R., 163
SPOTILA, JAMES R., 222

TAIGEN, THEODORE L., 163
TAYLOR, C. RICHARD, 19

Thermoregulatory Precision in Three Species of Whiptail Lizards (Lacertilia: Teiidae), 176
Time Course of Changes in Enzyme Activities and Blood Respiratory Properties of Killifish during Long-Term Acclimation to Hypoxia, 136

Use of Standard Operative Temperature in the Study of the Thermal Energetics of Birds, The, 108

Van Soest, P. J., 402
Veghte, James H., 305
Violation of the Metabolism-Size Scaling Paradigm: Activities of Glycolytic Enzymes in Muscle Increase in Larger-Size Fish, A, 322
Vleck, Carol M., 32, 125

Water-Vapor Conductance of Black-billed Magpie (*Pica pica*) Eggs Collected along an Altitudinal Gradient, 163
Walker, James M., 8
Vleck, David, 125
Whittow, G. Causey, 210
Why Black Goats in Hot Deserts? Effects of Coat Color on Heat Exchanges of Wild and Domestic Goats, 19
Wickler, Steven J., 338